Headquarters U. S. Air Force

Integrity - Service - Excellence

Joint UAV Center of Excellence

Lt Col Thomas "T-Mac" McCarthy

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UAV Background

- The US military has been using UAVs for a long time
  - WWII remote controlled aircraft
  - Vietnam unmanned intelligence drones
  - Desert Storm ISR
  - Kosovo
- Maturing of UAV systems allowed them to play a major role in opening days of the Global War on Terror
  - Global Hawk
  - Predator

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Current Air Force UAVs

- **Global Hawk**
- Predator
- Dragon Eye
- Raven/Pointer
- Scan Eagle
- FPASS
- BATCAM

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Critical to the Future

- All Service pursuing UAVs to support war fighting mission
- UAVs increasingly moving from a primarily supporting role towards providing direct combat power
- Advances in technology continuously increase UAV capabilities and mission potential
- UAVs are more than just the airframe
  - Ground support
  - Communications
  - Information processing

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Stand up of a Joint UAV Center of Excellence (CoE)

- Joint CoE based at Indian Springs (Proposed 1 Oct 2005 initial operational capability)
- Led by rotating Service Flag Officer with initial USA one star commander and USAF 0-6 deputy
- Operationally focused organization concentrating on UAV systems technology, joint concepts, training, tactics and procedural solutions to the warfighters' needs

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Role of the Joint UAV CoE

- Leverage multi-service broad experience and expertise
- Open forum of ideas for all UAVs
- Virtually network with other UAV Centers of Excellence and Battlelabs (e.g. Army UAV center, Navy activities, etc.)
- JUAV COE will create, test, and validate joint doctrine, tactics techniques and procedures and joint operational architectures. It will be an enabler of joint interdependencies. It will address UAV implications into airspace integration and UAV integration into Joint C2.

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Facility

- Co-located with AF UAV/RPA COE established at Indian Springs
- Physical location takes advantage of
  - Ranges: Army's National Training Center, Navy's NAS Fallon, Marine's Twenty-Nine Palms, Air Force's Nellis AFB, etc.
  - Airspace (FAA coord) – Western Airspace is comparatively UAV friendly
  - Freqs & bandwidth (FCC coord)

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Joint UAV CoE Facts

- CoE will have no programmatic authority, it is a way to share and synchronize ideas
- UAV CoE will not replace any Service UAV CoE or Battle Lab, it will exist as a complement to them
- UAV CoE will be the place where the existing Service CoEs and Battle Labs bring ideas and systems to be tested in a Joint Environment and play in Joint Exercises

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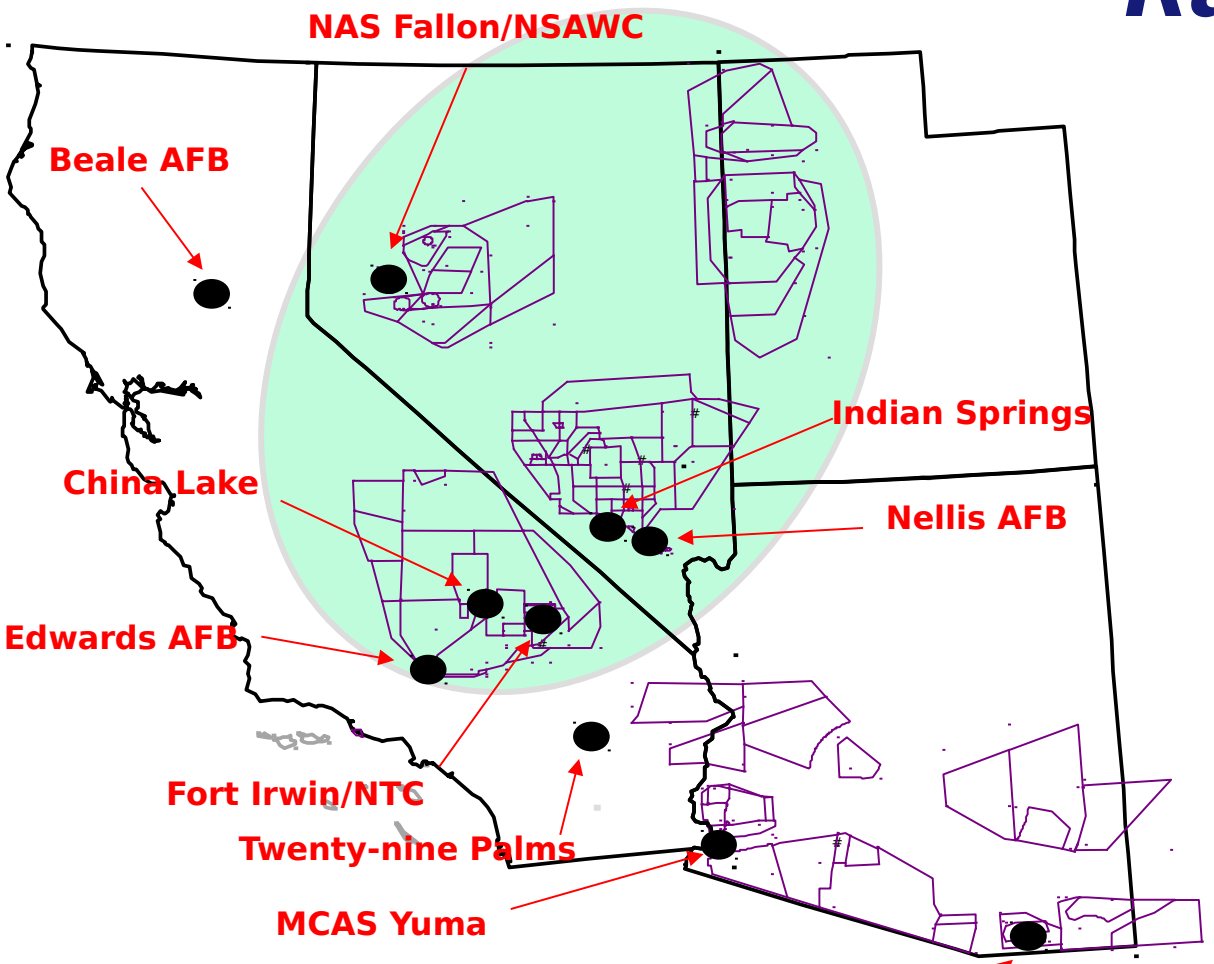
Joint UAV CoE Leverages Western Exercise / Test Ranges

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Back Ups/Hand Outs

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Small / Micro UAVs (OIF 2005)

DRAGON EYE

RAVEN / POINTER

SCAN EAGLE

FPAS

Small UAVS; Man portable; below 10K & 10nm; EO or IR; both RPV & "autono

Altitude (1000 ft)

10

5

1

Raven / Pointer – ***Recon & targeting / EO-IR / 67, (AFSOC 116)***

Dragon Eye – ***over the hill recon / EO-IR / 65***

FPASS – ***Base security & Force Protection / EO-IR /120***

Scan Eagle – **Leased Services, *Force Protection /EO-IR / 18***

1 5 Range (nm) 10 20

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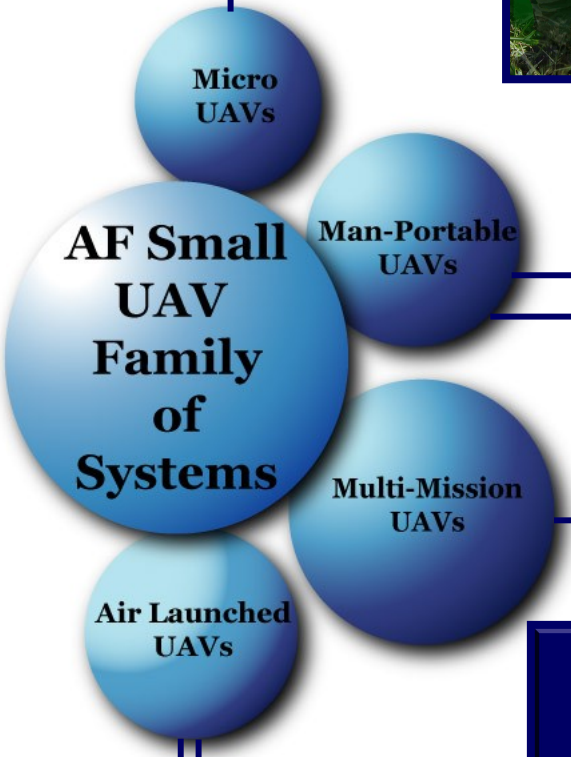
AF Small UAVs



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BATCAM Micro UAV

Capabilities

- Organic capability for individual warrior
  - Terminal control
  - BDA
  - Special reconnaissance
  - Situational awareness & threat warning

Characteristics/Description

- Easily carried
- Autonomous GPS waypoint navigation
- Control & imagery display on PDA or multi-purpose laptop
- EO payload
- Hand launch
- 3+ km range
- Recoverable or expendable

Current Force

- Battlefield Air Targeting Camera, Autonomous MAV (BATCAM)
  - 21” wingspan R&D prototypes

Future Force

- BATCAM: 11” wingspan objective design
  - BOIP: 565
    - Special Tactics: 400
    - Pararescue: 165

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Pointer/Raven Description

MISSION:

- **Air Force Small UAVs (Pointer/Raven) provide Special Tactics Teams (STTs) with a capability to provide individual situational awareness supporting a wide variety of missions including:**
  - **Reconnaissance & Surveillance**
  - **Force Protection**
  - **Terminal Control**
  - **Beyond-Line-of-Sight**

- **System includes:**
  - **2 AVs each**
  - **1 Remote Video Terminal (RVT)**
  - **1 Ground Control Unit (GCU)/Recorder**
  - **Spare Lithium Ion Batteries/Charger/Spare Kit**
- **Being fielded to 720th Special Tactics Group**

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FPASS System Description

One ground control station (computer, displays, recorder, and communications equipment)

- Six Unmanned Air Vehicles (UAV)
- Remote imagery viewing terminal
- Day (color TV) and night (thermal imager) payloads
- Essential spares, transportation cases, support equipment

- **Battery powered electric motor**
- **Simple design and operation**
- **Interchangeable EO or IR sensor for day or night operations**
- **4 person team per system**